REMARKS

Claims 1-9, 16, 18-27, 34-44, and 47-65 are pending in the application. Claims 1, 22, 26, 43 and 50 have been amended. Claims 10-15, 17, 28-33, 45 and 46 have been canceled without prejudice or disclaimer. New claims 53-65 have been added. No new matter has been added. Reconsideration of the claims is respectfully requested in view of the amendments and the arguments provided below.

Information Disclosure Statements

Five information disclosure statements have been submitted in this case:

1. June 17, 2002 – 30 references
2. August 26, 2002 – 10 references
3. April 4, 2003 – 1 reference
4. August 7, 2003 – 1 reference
5. February 4, 2004 – 3 references

The Examiner has acknowledged only IDS's nos. 2 and 4 by returning initialed copies of the related Forms 1449. In the Amendment submitted on December 11, 2003, the Examiner was requested to acknowledge IDS's 1 and 3 (June 17, 2002 and April 4, 2003) by forwarding initialed copies of Forms 1449 to Applicants' representative. The requested initialed copies have not yet been received.

A fifth IDS was submitted in this case on February 4, following the submission of the Amendment of December 11, 2003 (a courtesy copy of the Feb, 4, 2004 IDS, without references, accompanies this Response). There was no initialed copy of the 1449 Form from the February 4, 2004 IDS mailed with the present Office Action. Furthermore, the present Office Action did not even acknowledge Applicants' prior request for initialed Forms 1449.

Once again, Applicants respectfully request that the Examiner return initialed copies of Forms 1449 from IDSs 1, 3, and 5.

Double-Patenting Rejections

Claims 1, 22, 26, 43 and 50 are rejected under the judicially created doctrine of obviousness-type double-patenting as being unpatentable over claims 1, 26 and 34 of co-pending U.S. Application Serial No. 10/014,278 (the '278 application). Furthermore, claims 1, 22, 26, 43

and 50 are rejected under the judicially created doctrine of obviousness-type double-patenting as being unpatentable over claims 1, 19, 20 and 29 of co-pending U.S. Application Serial No. 10/015,151 (the '151 application). Applicants respectfully disagree with the statement in the Office Action that the claims of the present case are not patentably distinct over the cited claims of the '278 and '151 applications. Applicants contend that the claims of the present application are patentable over the cited claims of the '278 and '151 applications.

This rejection, however, will be attended to once the prior art rejections have been withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1-4, 8, 16 and 26-50 are rejected under 35 U.S.C. § 102(e) as being anticipated by Kanehira et al. (U.S. Patent No. 5,202,878) (Kanehira). It is stated that Kanehira discloses a laser system comprising a laser (11) producing a beam of output light, a detector unit (43) and a fringe producing optical element (42,5) disposed in the beam of output light to direct a first portion of the beam of output light to the detector unit (43) as a second light beam, an interference pattern being produced in the second light beam by the fringe-producing optical element.

In the Advisory Action dated May 12, 2004, the Examiner noted that the rejection under Kanehira remained. Applicants maintain the arguments against Kanehira as set forth in the last response, and request that the rejection under Kanehira be withdrawn since Kanehira fails to teach a fringe-producing optical element. If the Examiner persists in the rejection, the Examiner is requested to specifically explain how Kanehira's elements (5 and 42) (a polarizing beamsplitter and a beamsplitter) can operate as a fringe-producing optical element that produces a second light beam from the output beam that has an interference fringe pattern.

Nevertheless, independent claims 1, 26, 43 and 50 have been amended.

Independent Claim 1

Independent claim 1 is directed to a laser system that comprises a laser capable of producing a beam of output light and a detector unit. A fringe-producing optical element is disposed in the beam of output light to direct a first portion of the beam of output light to the detector unit as a second light beam. The fringe-producing optical element comprises one of a diffractive etalon and a non-parallel etalon, the non-parallel etalon comprising one of a non-planar etalon, a Fresnel etalon, and a binary etalon. An interference fringe pattern is produced in the second light beam by the fringe-producing optical element. A second portion of the output light beam, different from the first portion, propagates from the fringe-producing optical element. A control unit is coupled to receive detector information from the detector unit. The control unit is coupled to the laser to control the wavelength of the beam of output light in response to the information received from the detector unit.

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Therefore, all claim elements, and their limitations, must be found in the prior art reference to maintain a rejection based on 35 U.S.C. §102. Applicants respectfully submit that Kanehira does not teach every element of the rejected claims, and therefore fails to anticipate the claims.

Kanehira fails to teach a fringe-producing element that is comprised of a diffractive etalon or a non-parallel etalon. Furthermore, Kanehira fails to teach that the non-parallel etalon comprises a non-planar etalon, a Fresnel etalon or a binary etalon.

Kanehira also fails to teach a control unit that controls the wavelength of the beam of output light in response to the information received from the detector unit. This was explained in the previous response and need not be repeated here.

Thus, Kanehira fails to teach all the elements of claim 1, and claim 1 is not anticipated by Kanehira.

Independent Claim 26

The invention of method claim 26 is directed to a method of stabilizing an operating frequency of an output light beam produced by a laser. The method comprises splitting a first portion from the output light beam as a second light beam using a fringe-producing optical element. The fringe-producing element comprises one of a diffractive etalon and a non-parallel etalon. The non-parallel etalon comprises one of a non-planar etalon, a Fresnel etalon, and a binary etalon. The fringe-producing optical element causes an interference fringe pattern in the second light beam. A second portion of the output light beam, different from the first portion, propagates from the fringe-producing optical element. Portions of the interference fringe pattern are detected using a detector unit. Detector signals are produced in response to the detected portions of the interference fringe pattern. A frequency control signal is generated in response to the detector signals, and the laser is tuned in response to the frequency control signal so that the operating frequency of the output light beam is substantially at a desired value.

Kanehira fails to teach all the elements of claim 26. Applicants repeat the arguments presented against Kanehira in the last response. Also, Kanehira fails to teach a diffractive etalon or a non-parallel etalon being used as the fringe-producing element. Kanehira also fails to teach that the non-parallel etalon can be a binary etalon, a Fresnel etalon or a non-planar etalon.

Accordingly, since Kanehira fails to teach all the elements of claim 26, claim 26 is not anticipated by Kanehira.

Independent claim 43

The invention of independent claim 43 is directed to a method of stabilizing an operating frequency of an output light beam produced by a laser. The method comprises splitting a first portion from the output light beam as a second light beam using a fringe-producing optical element. The fringe-producing optical element comprises a diffractive etalon or a non-parallel etalon. The non-parallel etalon comprises a non-planar etalon, a binary etalon or a Fresnel etalon. The fringe-producing optical element causes an interference fringe pattern in the second light beam, a remainder of the output light beam after splitting the first portion being a second portion of the output light beam. The operating frequency of the output light beam is stabilized using the interference fringe pattern.

Applicants maintain the arguments against Kanehira presented in the previous response. Also, Kanehira fails to teach using a diffractive etalon or a non-parallel etalon, and also fails to teach that the non-parallel etalon comprises a non-planar etalon, a binary etalon or a Fresnel etalon.

Kanehira, therefore, fails to teach all the elements of claim 43 and thus fails to anticipate claim 43.

Independent claim 50

The invention of independent claim 50 is directed to a system for stabilizing an operating frequency of an output light beam produced by a laser. The system comprises a laser capable of producing an output light beam. The system also comprises fringe-forming means for splitting the output light beam into a second light beam and a third light beam and for forming an interference fringe pattern in the second light beam, the third light beam propagating from the fringe-forming means. The fringe-forming means has at least one optical surface that is not flat. The system also includes means for stabilizing the operating frequency of the output light beam using the interference fringe pattern.

Applicants maintain the arguments against Kanehira presented in the previous response. Also, Kanehira fails to teach fringe-forming means that has a surface that is not flat.

Accordingly, Kanehira fails to teach all the elements of claim 50, and so claim 50 is not anticipated.

Dependent claims 2-4, 8, 16, 27-42 and 44-49

Dependent claims 2-4, 8, 16, 27-42 and 44-49, which are dependent from independent claims 1, 26, and 43, were also rejected under 35 U.S.C. §102 as being anticipated by Kanehira. While Applicants do not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made above in connection with independent claims 1, 26 and 43. These dependent claims include all of the limitations of the base claim and any intervening claims, and recite additional features which further distinguish these claims from the cited references. Therefore, dependent claims 2-4, 8, 16, 27-42 and 44-49 are also in condition for allowance.

Rejection under 35 U.S.C. § 103

Dependent claims 5-7, 9-15, 17-25, 51 and 52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanehira in view of Vilhelmsson et al. (U.S. Patent Publication No. 2002/0181519) (Vilhelmsson). Vilhelmsson has been described previously.

Dependent Claims 5-7, 9 and 17-21

Applicants maintain the arguments over this rejection presented in the last response.

Independent Claim 22

It is stated in the Office Action that Kanehira does not teach an optical communications transmitter unit, a control unit, an optical receiver unit and an optical fiber communication link, but that Vilhelmsson teaches these elements, and that it would have been obvious to one of ordinary skill in the art to modify Kanehira to have the transmitter, control unit, receiver and fiber communications link as taught by Vilhelmsson because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention.

Applicants respectfully disagree. Three criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. MPEP § 2142. Applicants respectfully traverse the rejection since the prior art fails to disclose all the

claim limitations and there would be no motivation to combine the references as proposed by the Examiner.

First, the proposed combinations of references fail to teach or suggest all the elements of the invention of independent claim 22. In particular, none of the references teach or suggest a wavelength stabilizing unit that includes a detector unit and a fringe-producing optical element disposed in the laser output beam, where the fringe-producing element directs a first portion of the laser output beam to the detector unit as a second light beam and causes an interference fringe pattern in the second light beam, and where a second portion of the output light beam propagates from the fringe-producing optical element to be transferred in the optical fiber communications link. Accordingly, the proposed combinations of references fail to teach or suggest all the elements of claim 22.

In addition, the motivation provided in the Office Action for combining the references in the manner suggested is inadequate. The proposed motivation is "because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention." This is not motivation, since it does not provide a reason why one of ordinary skill in the art would want to make the combination. The mere fact that the references can be combined or modified is not sufficient to establish *prima facie* obviousness. MPEP § 2143.01.

Furthermore, Vilhelmsson teaches that a beamsplitter is used to split off a portion of the output beam from the laser, and then that split portion is directed to an etalon, a fringe-producing element. Thus Vilhelmsson teaches that a beamsplitter is not a fringe-producing element. One of ordinary skill would not be motivated, therefore, to add more beamsplitters to Vilhelmsson's system to produce a fringe-producing element, as is suggested in the Office Action.

Thus, since the proposed combinations of references fail to teach or suggest all the elements of the invention, and since insufficient motivation has been provided to make the combinations as proposed, Applicants respectfully assert that the invention of claim 22 is patentable over the proposed combinations of references.

Dependent Claims 23-25

Dependent claims 22-25 depend from allowable claim 22 and are also, therefore, allowable.

Dependent claims 51 and 52

Dependent claims 51 and 52 depend from allowable claims 26 and 43 respectively and, therefore, are also allowable.

New claims

New independent claims 53 and 61 have been added. Support for these claims is found at FIG. 11 and page 23, line 20 – page 24, line 17. Dependent claims 54-60 and 62-65 depend from claims 53 and 61.

Conclusion

In view of the reasons provided above, it is believed that all pending claims are in condition for allowance. Applicants respectfully request favorable reconsideration and early allowance of all pending claims.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' attorney of record, Iain A. McIntyre at 612-436-9610.

Respectfully submitted,

CCVL P.A.
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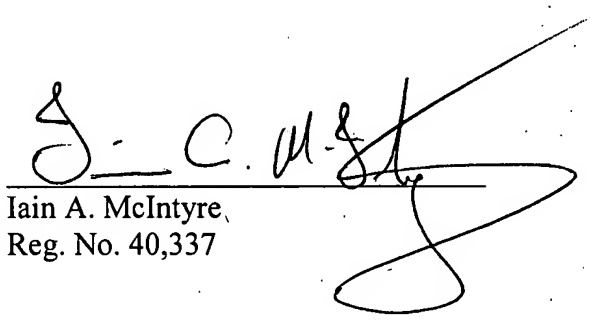
Date: June 10, 2004

By: 
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